SWAMP
Surface Water Ambient Monitoring Program

Adequate and accurate monitoring and assessment are the cornerstones to preserving, enhancing, and restoring water quality. The information gathered from monitoring activities is critical to protect the beneficial uses of water, develop water quality standards, conduct federal *Clean Water Act assessments*, and determine the effects of pollution and of pollution prevention programs.

SWAMP Participants

- State Water Resources Control Board
- Regional Water Quality Control Boards
- Department of Fish & Game
  - Marine Pollution Studies Laboratory, Granite Canyon
  - Marine Pollution Studies Laboratory, Moss Landing
  - Fish and Wildlife Water Pollution Control Laboratory, Nimbus
  - Aquatic Bioassessment Laboratory, Nimbus

CALIFORNIA Water Boards

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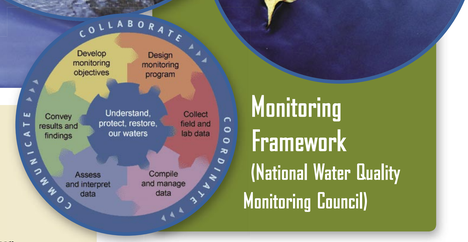
SWAMP Program Goals and Vision

- That water quality is comprehensively measured to protect beneficial uses and to evaluate our protection and restoration efforts.
- To define a complete set of monitoring objectives, based on beneficial use attainment and reflecting the full range of regulatory responsibilities and water quality programs for all waterbody types.
- To develop and implement a monitoring design that maximizes our ability to meet our monitoring objectives with existing resources.
- To develop and implement a set of monitoring indicators (and assessment thresholds), which can be used to track the status and trends of water quality and to evaluate the effectiveness of management actions to improve water quality in California.
- To develop and implement a progressive quality assurance program using a systems-based approach to the generation and storage of application-appropriate data/metadata.
- To make credible ambient monitoring data available to all stakeholders in a timely manner.
- To provide a consistent science-based framework for the evaluation of monitoring data relative to state and regional standards and the protection of beneficial uses and for tracking the effectiveness of management actions.
- To report all collected data as information and in a timely and publicly accessible manner.
- To conduct periodic reviews of each aspect of the program to determine its scientific validity and how well it serves the water quality decision needs of the state.
- To provide the support needed to implement a coordinated and comprehensive monitoring and assessment program.



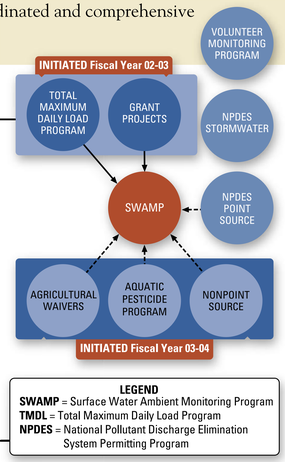
Monitoring Framework (National Water Quality Monitoring Council)

Ten Basic Elements of a State Water Monitoring and Assessment Program

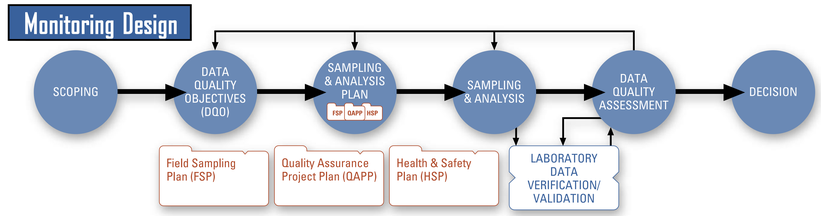
- Monitoring Program Strategy
- Monitoring Objectives
- Monitoring Design
- Core Indicators of Water Quality
- Quality Assurance
- Data Management
- Data Analysis/Assessment
- Reporting
- Programmatic Evaluation
- General Support and Infrastructure

SWRCB & RWQCB Boards Coordination

- Capture Monitoring Data
- Ensure Data Comparability
- Coordinate for QA and Data Formats
- Programs Involved:
  - Regional Watershed Assessments
  - TMDLs
  - Grant Projects
  - Aquatic Pesticide Monitoring
  - Waivers
  - Clean Water Team (volunteer groups)
  - Fish/Shellfish Bioaccumulation



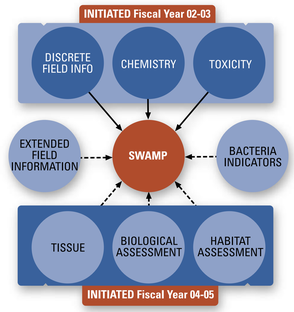
Monitoring Design



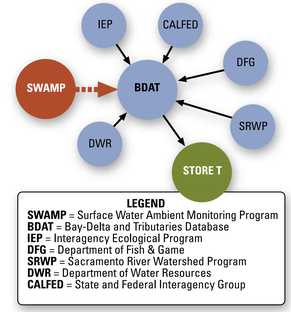
Data Management

- Make data available in a timely manner.
- Offer an accessible electronic data system.
- Set metadata and geo-locational standards.
- Provide database support and training.
- Make data available through CEDEN.
- Upload data to EPA's STORET.

Database Development



Database Integration



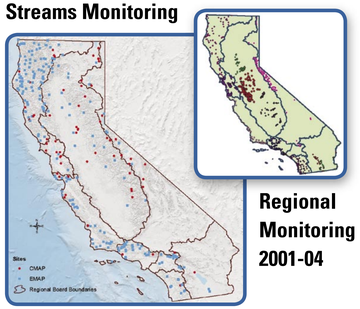
Statewide SWAMP Monitoring

State and Regional Monitoring Components

The state and regional monitoring components vary in their scale of questions, objectives, and design.

- State program
  - Asks broad questions
    What percent of the state's water bodies are healthy ?
  - Uses of program
    Environmental Protection Indicators for California
    305b Report
    Legislative reports
- Regional program
  - Objectives and design are more specific
    Are specific water bodies meeting water quality standards?
    303d list
    Are specific management/restoration efforts successful?

Perennial Wadeable Streams Monitoring



Regional Monitoring 2001-04

To find out how to be comparable with SWAMP, go to:
http://mpsl.mlml.calstate.edu/swcompare.htm

SWAMP on the Web

Quality Assurance

- QA Team
- QA Toolbox
- QA Web site
  www.waterboards.ca.gov/swamp/qapp.html
- QA "Expert System" Software

SWAMP Training Track

- Introductory Monitoring Design
- Design
- SWAMP Field Methods (CD rom)
- Introductory Quality Assurance
- *SWAMP Advisor*
- SWAMP Data Management
- SWAMP Collaboration Workshop
- Annual meeting---California Bioassessment Workgroup
- SWAMP for Agriculture Coalitions
- Monitoring Grant Project Effectiveness